VPA PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPA permit listed below. This permit is for the land application of Class B biosolids on agricultural or silvicutural land in Prince George County.

1.	Permit Name and Address	Legal Name of Owner and Address
	Synagro Central LLC -Prince County *10647 Tidewater Trail* *Champlain, Virginia 22438-2017*	*Synagro Central LLC* *10647 Tidewater Trail*
2.	VPA Permit No.:	VPA0*0843*
3.	SIC Code(s):	
4.	Facility Contact	
	D. Steve McMahon 10646 Tidewater Trail Champlain, Virginia 22438-2017 804-446-2170 smcmahon@synagro.com	
5.	Permit Application Information	
	Application submitted by:	Synagro Central LLC
	Address (if different than owner's address):	
	Application receipt date:	November 18, 2013
	Additional information requested:	May 5, 2014
	Additional information received:	June 16, 2014
	Application complete date	July 30, 2014

6. Permit Processing Information:

DEQ Regional Office:		Piedmont
Site Inspection performed by:		Mark Mongold
Date of site inspection :		May 11, 2015
Date of public meeting for permit application*:		May 27, 2015
Permit drafted by:		Mark Mongold
Date permit drafted:		December 31, 2014
Draft permit reviewed by:		Kyle Winter
Date draft permit reviewed:		
Dates of draft permit public comment period	From:	
	To:	

***** A public meeting is only required for certain applications to authorize land application of biosolids, treated municipal wastewater and stabilized septage.

7. Permit Characterization

Permit Action	Facility	Permit Type
☒ Issuance	☐ Existing facility	☒ Biosolids distribution, marketing, storage, and land application
☐ Reissuance	☐ Proposed facility	☒ Frequent
☐ Revocation and reissuance	☐ Treatment Works	☒ Infrequent
☐ Owner modification	☒ N/A	☐ Land application/storage of animal waste
☐ Board initiated modification	**Type of Facility/Permit**	☐ Land treatment of wastewater
☐ Interim authorization	☒ Municipal	☐ Industrial
☐ Enforcement action	☐ Industrial	☐ Municipal
	Ownership	☐ Land application of industrial sludge
	☐ Public	☒ Land application of water plant residuals
	☒ Private	☐ Land application of septage
	☐ Federal	☐ Water reclamation and reuse
	☐ State	☐ Pump and haul*
	☐ Animal feeding operation/poultry waste management	☐ Routine Storage of Biosolids
		☐ Other:_____
	☐ Reclamation system or satellite reclamation system	☐ Other:_____
	☐ Reclaimed water distribution system	
	☐ Other	

* Pump and haul of wastewater other than sewage. Pump and haul of sewage is regulated by the Virginia Department of Health in accordance with the Sewage Handling and Disposal Regulations (12VAC5-610).

8. Annual permit maintenance fee: *$100*

9. Licensed Operator Requirements: *Certified Land Appliers required onsite during land application activities*

10. Reliability Class: *N/A*

11. Pollution Management Activity Description. *Land application of biosolids and water treatment plant residuals to agricultural and silvicutural sites within Prince Geroge County, including 54 fields, totaling 1513.3acres, as identified in the permit application. Application rates shall be in accordance with site specific nutrient management plans.*

12. Location Description. Attachment A.

13. Bases for Limits and Monitoring Requirements and Special Conditions.
    A. Part I.A Limits and Monitoring Requirements. See Appendix A

    B. Part I.B through J - Special Conditions. See Appendix B.

14. Compliance Schedules. *There is no compliance schedule associated with the permit.*

15. Changes to the Permit. N/A Permit Issuance

16. Attachments. List any attachments associated with this permit.

    Attachment A Listing of Land Application Sites.

17. Public Notice Information per 9VAC25-32-140: All pertinent information is on file, and may be inspected and copied by contacting Mark Mongold at: DEQ-Piedmont Regional Office, 4949-A Cox Road, Glen Allen VA 23060, (804)-527-5159, mark.mongold@deq.virginia.gov by email.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

APPENDIX A

BASES FOR LIMITATIONS AND MONITORING REQUIREMENTS

Monitoring Type: Biosolids/Water Treatment Plant (WTP) Residuals Monitoring –
Monitoring Location: Final Biosolids or WTP residuals product after all treatment, prior to land application

Part I.A.1.a. Metals Limitations

PARAMETER	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Maximum	Frequency	Sample Type
Total Arsenic (mg/kg)	1,2,3,4,5	41	75	Part I.A.3	Composite
Total Cadmium (mg/kg)	1,2,3,4,5	39	85	Part I.A.3	Composite
Total Copper (mg/kg)	1,2,3,4,5	1,500	4,300	Part I.A.3	Composite
Total Lead (mg/kg)	1,2,3,4,5	300	840	Part I.A.3	Composite
Total Mercury (mg/kg)	1,2,3,4,5	17	57	Part I.A.3	Composite
Total Molybdenum (mg/kg)	1,2,3,4,5	NA	75	Part I.A.3	Composite
Total Nickel (mg/kg)	1,2,3,4,5	420	420	Part I.A.3	Composite
Total Selenium (mg/kg)	1,2,3,4,5	100	100	Part I.A.3	Composite
Total Zinc (mg/kg)	1,2,3,4,5	2,800	7,500	Part I.A.3	Composite
Total Aluminum	6	NL	NA	1/Year	Composite

NL = No Limitation, monitor and report

(1) All constituents are subject to cumulative pollutant loading rates (CPLR), pollutant concentrations (PC), and ceiling limitations. PC biosolids contain the constituents identified above at concentrations below the monthly average specified in Part I.A.1. CPLR biosolids contain the constituents identified above at concentrations above the monthly average and each sample must be below the ceiling limitations specified in Part I.A.1. If the concentration of any of these constituents in biosolids from any source exceeds the monthly average concentration, then the biosolids from the source are subject to CPLR rules (Part I.A.1.b., Part I.C.3., and Part I.I.16.) [Bases 1 &7].

(2) All limits and criteria are expressed on a dry weight basis. [Basis 1]

(3) The monthly average concentration for molybdenum is currently under study by USEPA. Research suggests that a monthly average Molybdenum concentration below 40 mg/kg may be appropriate to reduce the risk of copper deficiency in grazing animals. [Basis 4]

(4) Aluminum monitoring is required for WTP residuals only. All water treatment plant residuals generated at a WTP that uses any aluminum based coagulant are subject to Aluminum monitoring and the tracking of the aluminum loading at each field on which WTP residuals are applied. [Basis 6]

Bases for Residuals Limitations

1. 9VAC25-32-356
2. 9VAC25-32-356, Table 1
3. 9VAC25-32-356, Table 2
4. 9VAC25-32-356, Table 4
5. 9VAC25-32-358, Table 1
6. Guidance Memorandum (GM) No. 95-002
7. 9VAC25-32-313.C. & F.

Monitoring Type: Biosolids& WTP Residuals Monitoring (only applicable to biosolids subject to Cumulative Pollutant Loading Rates (CPLRs))
Monitoring Location: Calculated for each land application field where biosolids subject to CPLRs or WTP residuals are land applied

Part I.A.1.b Site Specific Metals Loading Limitations

PARAMETER	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		CPLR*		Frequency	Sample Type
		(kg/ha)	(lb/A)		
Total Arsenic	1	41	36	Each Application	Calculated
Total Cadmium	1	39	35	Each Application	Calculated
Total Copper	1	1,500	1,340	Each Application	Calculated
Total Lead	1	300	270	Each Application	Calculated
Total Mercury	1	17	16	Each Application	Calculated
Total Molybdenum	1	NL	NL	Each Application	Calculated
Total Nickel	1	420	375	Each Application	Calculated
Total Selenium	1	100	89	Each Application	Calculated
Total Zinc	1	2,800	2,500	Each Application	Calculated
Total Aluminum (1)	2	4,570	4,113	Each Application	Calculated

NL = No Limitations, monitor and report.

(1) The CPLR is the maximum cumulative application of trace elements that can be applied to soils used for crop production. The maximum cumulative application rate is limited for all ranges of cation exchange capacity due to soil background pH in Virginia of less than 6.5 S.U. and lack of regulatory controls of soil pH adjustment after biosolids application ceases. [Bases 4 & 5]
(2) All limits and criteria are expressed on a dry weight basis. [Basis 6]
(3) No person shall apply bulk biosolids subject to the CPLRs identified above to agricultural land, forest, a public contact site, or a reclamation site if any of the CPLRs identified above has been reached. [Basis 5]
(4) The maximum cumulative application for molybdenum is currently under study by USEPA. Research suggests that for Molybdenum a cumulative pollutant loading rate below 40 kg/hectare may be appropriate to reduce the risk of copper deficiency in grazing animals. [Basis 1]
(5) All sites that receive WTP residuals containing aluminum are subject to the tracking of aluminum loading, regardless of concentration of aluminum in the residuals. [Basis 3]

Bases for Residuals Limitations

1. 9VAC25-32-356, Table 3
2. EPA Process Design Manual - Land Treatment of Municipal Wastewater (EPA 625/1-81-013)
3. GM No. 95-002
4. 9VAC25-32-313.C. & F.
5. 9VAC25-32-356.B.
6. 9VAC25-32-356.A.

Monitoring Type: Biosolids Monitoring –
Monitoring Location: Final Biosolids product after all treatment, prior to land application

Part I.A.1.c. Pathogen Reduction Requirements

BASIS FOR LIMITS	PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION	CLASS B PATHOGEN REDUCTION TREATMENT STANDARDS	MONITORING REQUIREMENTS
1,2,3,4,5	1	NA	Fecal coliform monitoring: <2,000,000 MPN/gm or <2,000,000 CFU/gm, geometric mean of 7 samples. (9VAC25-32-675.B.2.)	Part I.A.3.(1)
1,2,3,4,5	2	1	PSRP: Aerobic Digestion: Sludge mean cell residence time from 40 days at 20˚C to 60 days at 15˚C. (9VAC25-32-675.D.1.)	(2)
1,2,3,4,5	2	2	PSRP: Air dry in a drying bed for three months. Ambient average daily temperature must be above 0˚C for 2 of the 3 months. (9VAC25-32-675.D.2.)	(2)
1,2,3,4,5	2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35˚C - 55˚C up to 60 days at 20˚C. (9VAC25-32-675.D.3.)	(2)
1,2,3,4,5	2	4	PSRP: Composting at 40˚C or above for 5 or more days, maintaining > 55˚C for 4 consecutive hours during the 5 days. (9VAC25-32-675.D.4.)	(2)
1,2,3,4,5	2	5	PSRP: Sufficient lime is added to the sewage sludge to raise the pH of the sewage sludge to 12 after two hours of contact. (9VAC25-32-675.D.5.)	(2)
1,2,3,4,5	3	PROCESS AS APPROVED	Process equivalent to PSRP: PROCESS AS APPROVED (9VAC25-32-675 B.4.)	(2)

NA = Not applicable

(1) Between sampling events, operating records must demonstrate that the Wastewater Treatment Plant (WWTP) is operating at a performance level known to meet pathogen reduction standards. [Bases 1. & 5.]
(2) Process monitoring must be sufficient to demonstrate compliance with PSRP treatment requirements. [Bases 1,2,3,5]

Bases for Residuals Limitations
1. 9VAC25-32-357.A - B
2. 9VAC25-32-675.B
3. 9VAC25-32-675 D.
4. 9VAC25-32-358.A.1, Table 1
5. Environmental Regulations and Technology - Control of Pathogens and Vector Attraction Reduction in Sewage Sludge (EPA/625/R-92/013)

Monitoring Type: Biosolids Monitoring
Monitoring Location: Final Biosolids product after all treatment, prior to land application

Part I.A.1.d. Vector Attraction Reduction Requirements

BASIS FOR LIMITS	VAR OPTION	VECTOR ATTRACTION REDUCTION TREATMENT STANDARD	MONITORING REQUIREMENTS
1,2,3,4	1	38% Reduction of volatile solids by digestion (9VAC25-32-685.B.1.)	Part I.A.3.(1)
1,2,3,4	2	When 38% reduction is not achieved by anaerobic digestion, 40 day bench study at temperatures between 30°C and 37°C to demonstrate further reduction of volatile solids <17%. (9VAC25-32-685.B.2.)	Part I.A.3. (1)
1,2,3,4	3	When 38% reduction is not achieved by aerobic digestion, 30 day bench study at 20°C to demonstrate further reduction of volatile solids <15%. (9VAC25-32-685.B.3.)	Part I.A.3. (1)
1,2,3,4	4	Specific Oxygen Uptake Rate of <= 1.5 mg O_2/hour/gram total solids at 20°C (aerobically processed sludge)	Part I.A.3.(1)
1,2,3,4	5	14 day aerobic process, temperatures above 40°C with an average temperature of >45°C. (9VAC25-32-685.B.5.)	(2)
1,2,3,4	6	Sufficient alkali is added to the sewage sludge to raise the pH of the sewage sludge to 12 or higher, and without the addition of more alkali, maintain the pH at 12 s.u. for two hours and then at 11.5 s.u. or higher for an additional 22 hours. (9VAC25-32-685.B.6.)	(2)
1,2,3,4	7	Where biosolids do not contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be >= 75% (9VAC25-32-685.B.7.)	Part I.A.3.(1)
1,2,3,4	8	Where biosolids contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be >= 90% (9VAC25-32-685.B.8.)	Part I.A.3.(1)
1,2,3,4	9	Sewage Sludge shall be injected below the surface of the land. (9VAC25-32-685.B.9.)	NA
1,2,3,4	10	Sewage sludge land applied shall be incorporated into the soil within 6 hours after application. (9VAC25-32-	NA

NA = Not applicable

(1) Between sampling events, operating records must demonstrate that the WWTP is operating at a performance level known to meet the VAR standards. [Bases 1, 2, 3, 4]
(2) Process monitoring must be sufficient to demonstrate compliance with VAR treatment requirements. [Bases 1, 2, 3, 4]

Bases for Residuals Limitations
1. 9VAC25-32-357.A & D
2. 9VAC25-32-685
3. 9VAC25-32-358.A.1, Table 1
4. Environmental Regulations and Technology - Control of Pathogens and Vector Attraction Reduction in Sewage Sludge (EPA/625/R-92/013)

Monitoring Type: Biosolids/WTP Residuals Monitoring
Monitoring Location: Final Biosolids and WTP residuals product after all treatment, prior to land application

e. Biosolids Characteristics

PARAMETERS	LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Average	Minimum and Maximum	Frequency	Sample Type
Percent Solids (%)	NL	NA	Part I.A.3.	Composite
Volatile Solids (%)	NL	NA	Part I.A.3.	Composite
Total Kjeldahl Nitrogen (mg/kg)(1)	NL	NA	Part I.A.3.	Composite
Ammonium Nitrogen (mg/kg) (1)	NL	NA	Part I.A.3.	Composite
Nitrate Nitrogen (mg/kg) (1)	NL	NA	Part I.A.3.	Composite
Total Phosphorus (mg/kg) (1)	NL	NA	Part I.A.3.	Composite
Total Potassium (mg/kg) (1)	NL	NA	Part I.A.3.	Composite
pH (S.U.)	NA	NL	Part I.A.3.	Composite
Alkalinity as $CaCO_3$ (mg/kg) (If lime by weight is less than 10%)	NL	NA	Part I.A.3.	Composite
CCE as $CaCO_3$ (%) (If lime by weight is 10% or more)	NL	NA	Part I.A.3.	Composite

NL = No Limit, monitor and report
NA = Not applicable

(1) Expressed on a dry weight basis. [Basis 1.]

Bases for Residuals Limitations
1. 9VAC25-32-356.A
2. 9VAC25-32-358.A.1, Table 1

Monitoring Type: Biosolids & WTP Residuals Monitoring
Monitoring Location: Nutrient loading rates shall be calculated for each source of biosolids/WTP residuals land applied and each application of biosolids/WTP residuals to an application

f. Nutrient Loading Rates

		LIMITATIONS				MONITORING REQUIREMENTS	
PARAMETERS	**Bases**	**Conc. Lbs/Dry Ton**	**Field Application Rate**	**12 Month Field Loading**	**NMP Application Rate**	**Frequency**	**Sample Type**
Biosolids/ WTP Residuals	1,2,3	N/A	(Dry Tons/Ac) (1)	(Dry Tons/Ac) (1)	(Dry Tons/Ac) (1)	Each application	Calculated
Plant Available Nitrogen (PAN)	1,2,3	NL	(Lbs/Ac) (1)	(Lbs/Ac) (1)	(Lbs/Ac) (1)	Each application	Calculated
Phosphate (P_2O_5)	1,23,4	NL	(Lbs/Ac) (1)	(Lbs/Ac) (1)	(Lbs/Ac) (1)	Each application	Calculated
K_2O	1,2,3,5	NL	(Lbs/Ac) (2)	(Lbs/Ac) (2)	(Lbs/Ac) (3)	(2,3)	Calculated
$CaCO_3$	1,2,3,6	NL	(Lbs/Ac) (4)	(Lbs/Ac) (4)	(Lbs/Ac) (5)	(4,5)	Calculated

NL = No Limit, monitor and report

(1) The field application rate and 12 Month Field Loading shall not exceed the application rate specified in the nutrient management plan (NMP) for the application method used. [Basis 1]
(2) Report the amount of K_2O provided by the biosolids/residuals and supplemental K_2O applied for each application where the soil test K is < 38 ppm Mehlich I. [Basis 5]
(3) Report the K_2O application rate recommended in the NMP for each application where the soil test K is < 38 ppm Mehlich I. [Basis 5]
(4) Report the amount of $CaCO_3$ provided by the biosolids/residuals and supplemental $CaCO_3$ applied for each application where the soil test pH is < 5.5 S.U. Mehlich I. [Basis 6]
(5) Report the $CaCO_3$ application rate recommended in the NMP for each application where the soil test pH is < 5.5 S.U. [Basis 6]

Bases for Residuals Limitations
1. 9VAC25-32-560.B.3.a.
2. 9VAC25-32-360.C.
3. 9VAC25-32-100.B.3.
4. 9VAC25-32-410.C.5
5. 9VAC25-32-560.2.e.
6. 9VAC25-32-560.2.d.

Monitoring Type: Soils Monitoring
Monitoring Location: All land application sites before sludge is applied.

7. Soil

PARAMETER	BASIS FOR LIMITS	LIMITATIONS	MONITORING REQUIREMENTS	
			Frequency	Sample Type
Soil pH (S.U.)	1,2	NL	Prior to Biosolids Application ***	Composite
Available Phosphorus (Mehlich I - P)* (ppm)	1,2	NL	Prior to Biosolids Application	Composite
Extractable Potassium (Mehlich I – K)**(ppm)	1,2	NL	Prior to Biosolids Application	Composite
Extractable Calcium (mg/100 g)	1,2	NL	Prior to Biosolids Application	Composite
Extractable Magnesium (mg/100 g)	1,2	NL	Prior to Biosolids Application	Composite
Zinc (mg/kg)	1,2	NL	Prior to Biosolids Application	Composite
Manganese (mg/kg)	1,2	NL	Prior to Biosolids Application	Composite

NL = No Limitation, monitoring required

* Available Phosphorus shall be analyzed using Mehlich I or Mehlich III analytical procedure. If sample is analyzed using Mehlich III, results shall be converted to Mehlich I for reporting purposes.
** Extractable Potassium shall be analyzed using Mehlich I analytical procedure or equivalent. If sample is analyzed using an equivalent procedure, results shall be converted to Mehlich I for reporting purposes.
*** For biosolids with a cadmium concentration greater than or equal to 21 mg/kg the soil pH sample must be less than 1 year old.

(1) Soil samples shall be collected and analyzed in accordance with regulations promulgated under § 10.1-104.2 of the Code of Virginia and as outlined in the Biosolids Management Plan (BSMP).
(2) All parameters except for pH shall be monitored on a dry weight basis.
(3) Results of the soil monitoring specified above shall be used to develop the NMP in accordance with Part I.D.2.
(4) No sample analysis used to determine application rates shall be more than 3 years old at the time of the biosolids land application.

Bases for Effluent Limitations
1. 9VAC25-32-460. A – C, Table 1
2. 9VAC25-32-560.B.2.e.
3. 9VAC25-32-560.B.2.c.

Monitoring Type: Frequency of Monitoring - Biosolids
Monitoring Location:.

3. Frequency of Monitoring

Frequency of sampling biosolids from each generator is based on the amount of biosolids produced by that generator that is land applied.

Amount of biosolids[(1)] (dry tons per 365-day period)	Frequency
Greater than zero but less than 320	Once per year
Equal to or greater than 320 but less than 1,653	Once per quarter (four times per year)
Equal to or greater than 1,653 but less than 16,535	Once per 60 days (six times per year)
Equal to or greater than 16,535	Per month (12 times per year)
Note:[(1)] Either the amount of bulk biosolids applied to the land or the amount of sewage sludge received by a person who prepares biosolids that is sold or given away in a bag or other container for application to the land (dry weight basis).	

WTP residuals shall be monitored once per year.

Bases for Effluent Limitations
1. 9VAC25-32-358.A., B., Table 1.
2. GM 95-02

APPENDIX B

BASES FOR SPECIAL CONDITIONS

Tabulated below are the special condition sections of the permit, with the bases for each of the permit special conditions.

Special Condition	Description and Basis for Special Condition
Part I.B.1	**Monthly Reporting:** 9VAC25-32-360-A and Fee Regulation 9VAC25-20-147.B requires submittal of a report by the 15th of the month following the month in which land application occurred. 9VAC25-32-100.B.2 provides for DEQ to establish the reporting frequency based on the pollutant management activity.
Part I.B.1a	**Biosolids/WTP Residuals Monitoring Data:** 9VAC25-32-80.I states that monitoring results shall be reported at the intervals specified in the applicable VPA permit in a format acceptable to the board. 9VAC25-32-100.B.1. – 2. provides for the VPA permit to require monitoring at a frequency sufficient to yield data representative of the activity and report at a frequency based on the pollutant management activity. 9VAC25-32-100.B.3. states that VPA permits may include Mass or other measurements for each pollutant of concern, as well as volume and other measures as appropriate.
Part I.B.1.b.	**Generator NANI:** 9VAC25-32-313.G requires the generator of biosolids who provides biosolids to a land applier, to give notice and necessary information to the land applier. 9VAC25-32-313.E. requires the generator to the person who applies the bulk biosolids written notification of the concentration of total nitrogen and phosphorus (as N and P on a dry weight basis) in the bulk biosolids.
Part I.B.1.c.	**Monthly Activity Report:** 9VAC25-32-360-A and Fee Regulation 9VAC25-20-147.B requires submittal of a report by the 15th of the month following the month in which land application occurred. Specific information to be provided is identified in 9VAC25-20-147.A. and B.
Part I.B.1.d.	**Electronic Submittal Attestation Statement:** § 59.1-479 – 498, the Uniform Electronic Transactions Act provides for submission of paperwork electronically and the use of electronic signatures. No laws or regulations require hard copy submittal of original signatures in the VPA program.
Part I.B.2	**Land Application Fee:** § 62.1-44.19.3.P requires that a fee be charged to the generator of biosolids to be land applied in Virginia. The fee of $7.50/dry ton of biosolids applied in the Commonwealth of Virginia is established by the Fee Regulation 9VAC25-20-146 and 9VAC25-20-40.A.3. Exemptions to the fee are provided in 9VAC25-20-50.C. 9VAC 20-60.D. establishes the due date.
Part I.B.3.	**Annual Report:** 9VAC25-32-360-B requires the submittal of an annual report postmarked by February 19 for the previous year. 9VAC25-32-100.B.3. provides for the VPA permit to require monitoring the volume of biosolids and other measurements as appropriate. 9VAC25-32-360.C requires reports be maintained verifying that sludge treatment for pathogen and vector attraction reduction be maintained by the generator and owner (of the permit). 9VAC25-32-80.G. requires the permittee to submit information requested by the board, within a reasonable time, to determine compliance with the permit.

Part I.C.1.	**Records Retention:** 9VAC25-32-80.H.2 specifies that all records of biosolids activities, monitoring and reporting shall be maintained for at least 5 years.
Part I.C.2.	**Class B/PC Biosolids Recordkeeping:** 9VAC25-32-359 provides specific recordkeeping requirements for PC and CPLR biosolids.
Part I.C.3.	**Class B/CPLR Biosolids and CPLR WTP Residuals Recordkeeping:** 9VAC25-32-359 provides specific recordkeeping requirements for PC and CPLR biosolids. The EPA Process Design Manual - Land Treatment of Municipal Wastewater (EPA 625/1-81-013) establishes a site specific loading rate for aluminum, which is a lifetime maximum. DEQ Guidance Memorandum (GM) No. 95-002 incorporates the aluminum loading limit for sites that receive WTP residuals generated using an aluminum based coagulant and requires tracking with each application of such WTP residuals.
Part I.D.1	**Biosolids Management Plan (BSMP):** 9VAC25-32-410 requires the permit holder to maintain and implement a BSMP consisting of permit application, NMPs and O&M manual and states that the BSMP is an enforceable part of the permit.
Part I.D.2.	**Nutrient Management Plan (NMP) Requirement:** § 62.1-44.19.3.C.8. requires that a NMP be developed by a person certified in accordance with § 10.1-104.2 for each biosolids land application site, prior to application of biosolids at the site. The statute also establishes conditions where the NMP must be approved by the Department of Conservation and Recreation prior to submittal at the time of permit application. 9VAC25-32-410.C.2 states that if conditions at the site change so that it meets one or more special conditions, the NMP will be approved prior to application at the site. 9VAC25-32-410.C.2, with which all biosolids operations must comply, requires that the NMP be submitted to the farmer/operator of the site, the Department of Conservation and Recreation, and the local government, unless requested in writing to not receive the NMP. 9VAC25-32-410.C.5, Table 1 requires the NMP to be approved by DCR prior to application based on soil phosphorus levels (Mehlich I).
Part I.D.3	**Operation and Maintenance (O&M) Manual Requirement:** 9VAC25-32-410.D. and 9VAC25-790-260 – 300 identify minimum requirements to be included in an O&M Manual. Additional requirements are included in the BSMP 9VAC25-32-60.F.3.
Part I.D.4	**Odor Control Plan (OCP) Requirement:** 9VAC25-32.60.F.1. requires Generator's OCP and minimum content. 9VAC25-32.60.F.5.c requires Land Applier's OCP and minimum content.
Part I.D.5.	**Permittee Source List - Biosolids/WTP Residuals:** 9VAC25-32-305.D states *no person shall land apply, market, or distribute biosolids in Virginia unless the biosolids source has been approved by the board.* 9VAC25-32-60.F.1. requires that a list of sources that the permittee proposes to land apply in the permit application, which is part of the BSMP. Water Control Law and the VPA Permit Regulation do not require a permit modification to add a new source; therefore a source that is approved may be added to the Permittee Source List with administrative authorization. A source not previously or currently approved, must obtain approval before it can be land applied under a VPA permit.
Part I.E.1.	**100 Day Notification:** 9VAC25-32-515.A.1. requires written notification to the chief executive officer (CEO) or designee for the locality 100 days prior to the initial land application at a specific site and clarifies that the notice may be satisfied by DEQ's notice of the permit application, if necessary site information was provided in that notification.

Part I.E.2.	**14 Day Notification:** § 62.1-44.19.3.L. and 9VAC25-32-515.A.2. requires written notification to the department and the CEO or designee for the locality at least 14 days prior to land application at a specific site.
Part I.E.3.	**Signage Requirements:** 9VAC25-32-515.B.1. requires a sign be posted at a land application site at least 5 business days prior to delivery of biosolids at the site and maintained on site until 5 business days after application is complete; the sign will not be removed until 30 days after land application is complete. 9VAC25-32-515.B.1.a. – b. addresses placement of the signs. 9VAC25-32-515.B.3. – 4. specifies construction, content, and maintenance of the sign.
Part I.E.4.	**Notification of Sign Posting:** 9VAC25-32-515.B.2. requires written notification to DEQ and the CEO or designee for the locality within 24 hours of posting, identifying where the signs have been posted, and identifies information required in the notice.
Part I.E.5.	**24 Hour Notification:** 9VAC25-32-515.A.3. requires written notice to DEQ and the CEO or designee for the locality no more than 24 hours prior to commencing activity at a site, including delivery. Include the source of material and only sites where land application activities or staging will commence within 24 hours.
Part I.E.6.	**Site Operator Notification and Information:** 9VAC25-32-313.I. states *The person who applies bulk biosolids to the land shall provide the owner or lease holder of the land on which the bulk biosolids is applied notice and necessary information to comply with the requirements in this article.*
Part I.E.7.	**Handling of Complaints:** 9VAC25-32-515.C provides specific requirements for the permittee upon receiving a complaint, including investigation of said complaint and notification to DEQ, the local government and the owner of the wastewater treatment facility from which the biosolids originated within 24 hrs of receiving a substantive complaint. The section goes on to define substantive complaint as any complaint alleging a violation of these regulations, state law, or local ordinance; a release of biosolids to state waters or to a public right-of-way or to any location not authorized in the permit; or failure to comply with the nutrient management plan for the land application site.
Part I.F.1. – 5.	**TRANSPORT requirements:** 9VAC25-32-540.A. – E. identifies requirements for transport routes, vehicles, prevention of drag-out and track-out, clean-up of such drag-out and track-out and clean-up and reporting of spills.
Part I.G.1. – 11.	**STAGING:** 9VAC25-32-545.A. – B. Defines staging and provides procedural requirements for staging up to 7 days and daily inspections by certified land applier; procedural and notification requirements to be implemented if biosolids cannot be applied by the end of the 7th day; and prohibits overnight staging in areas of Karst, areas identified by U.S. Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) as frequently flooded, and sites with on-site storage.
Part I.H.1. - 2.	ON-SITE STORAGE Requirements: 9VAC25-32-550.D.1., 3. - 10. Describes on-site storage and provides procedural requirements for staging up to 45 days, routine inspections by certified land applier; procedural and notification requirements; 9VAC25-32-550.D specifies on-site storage shall take place on a constructed surface at a location preapproved by DEQ and that biosolids stored on the site shall be land applied only at sites under control of the owner/operator of the site where the on-site storage is located; 9VAC25-32-550.C and D.2., 6. specifies permeability requirements for the pad and requires existing storage facilities to come into compliance with the amended regulation by 9/1/2014.

Part I.I.1.	**Infrequent Application:** 9VAC25-32-560.B.3.c. establishes infrequent application based on total crop needs for nitrogen.
Part I.I2.	**Depth to Bedrock or Restrictive Layers:** 9VAC25-32-560.B.2.a. states depth to bedrock or restrictive layers shall be a minimum of 18 inches.
Part I.I.3.	**Depth to Groundwater:** 9VAC25-32-560.B.2.b. prohibits land application when seasonal high water table is within 18" of ground surface and requires use of USDA-NRCS soil survey maps and soil borings to verify groundwater depth.
Part I.I.4.	**pH Management:** 9VAC25-32-560.B.2.c. requires the biosolids soil mixture have a pH of 6>0 S.U. or higher where cadmium in the biosolids is >= 21 mg/kg. 9VAC25-32-560.B.2.c.d. requires the addition of lime or use of lime amended biosolids if soil pH is < 5.5 S.U..
Part I.I.5.	**Soil Potassium < 38 ppm:** 9VAC25-32-560.B.2.e. requires addition of potash prior to or concurrently with the biosolids if the soil potassium (Mehlich I) is < 38 ppm.
Part I.I.6.	**Equipment Calibration:** 9VAC25-32-560.B.3.d.(1) requires routine measurement of the field application rate of application equipment.
Part I.I.7.	**Liquid Biosolids/WTP Residuals:** 9VAC25-32-560.B.3.d.(1) limits application of liquid biosolids to 14,000 gallons per acre, per application with drying time between applications.
Part I.I.8.	**Grass Height:** 9VAC25-32-560.B.3.d.(1) requires hay and pasture to be grazed or clipped to approximately 6 inches prior to biosolids application.
Part I.I.9.	**Uniform Application:** 9VAC25-32-560.B.3.d.(1) requires a uniform application of biosolids on a field. If application is not uniform additional operational methods are required followed by clipping.
Part I.I.10.	**Odor Control by Incorporation:** 9VAC25-32-560.B.3.d.(2) allows DEQ or the local monitor to require incorporation, when practical or compatible with a soil conservation plan, to mitigate malodor.
Part I.I.11.	**Slope Restrictions:** 9VAC25-32-560.B.3.d.(3) prohibits application on slopes >15%, but allows the restriction to be waived by DEQ for the establishment and maintenance of perennial vegetation or based on BMPs.
Part I.I.12.	**Snow Covered Ground:** 9VAC25-32-560.B.3.d.(5) allows land application of biosolids on snow cover that is 1 inch or less in depth and the snow and biosolids are incorporated within 24 hours. If the snow melts with application, incorporation is not required.
Part I.I.13.	**Setbacks:** 9VAC25-32-560.B.3.e.(1) – (4) establishes setback distances and procedures for extending or waiving residential and property line setbacks.
Part I.I.14.	**Site Access Restrictions:** 9VAC25-32-675.B.5. establishes access restrictions for sites where Class B biosolids have been land applied.
Part I.I.15.	**Forestland (Silviculture):** 9VAC25-32-560.C. establishes requirements for land application on silvicultural sites.

Part I.I.16.	**CPLR Biosolids:** 9VAC25-32-313.F establishes criteria for determining the need to track the metals loadings on individual sites where metals subject to the cumulative pollutant loading rates have been applied.
Part I.J.1.	**Biosolids/WTP Residuals Sources**: 9VAC25-32-305.D. states that no person shall land apply, market or distribute biosolids in Virginia unless the biosolids source has been approved by the board.
Part I.J.2.	**Land Application Sites**: 9VAC25-32-305.C. states that no person shall land apply Class B biosolids on any land in Virginia unless that land has been identified in an application to issue, reissue or modify a permit and approved by the board.
Part I.J.3	**Pollution Liability and General Liability Requirement:** 9VAC25-32-780 establishes liability requirements. 9VAC25-32-790 – 850 provides specific requirements for each type of liability demonstration.
Part I.J.4.	**Alteration of Biosolids Composition:** 9VAC25-32-560.A.2. prohibits the alteration of the biosolids composition at the land application site.
Part I.J.5.	**Site Specific Application Rates**: 9VAC25-32-560 states site specific application rates shall not exceed the rates established in the nutrient management plan nor result in exceedance of the cumulative trace element loading rates specified in 9VAC25-32-356 Table 3..
Part I.J.6.	**Land Owner Consent Requirement**: 9VAC25-32-60.D.4. requires the submission of landowner consent forms with the permit application 9VAC25-32-530.B.2.requires the written agreement between the permittee and the landowner, specifies required information and use of the most current form approved by the board. 9VAC25-32-530.A. requires the permittee to maintain the agreement.
Part I.J.7	**Threatened and Endangered Species Protection:** 9VAC25-32-313.B states no one shall apply bulk biosolids to the land if it is likely to adversely affect a threatened or endangered species listed in 9VAC25-260-320 or § 4 of the Endangered Species Act (16 USC § 1533) or if the land application is likely to adversely affect its designated critical habitat.
Part I.J.8.	**Certified Land Applicator Requirement**: § 62.1-44.19.3.1.B. states that Class B biosolids shall not be land applied unless a certified land applicator is onsite at all times during the application. 9VAC25-32-690 requires the land applier to maintain a field log and identifies minimum requirements and sign monthly reports, attesting that they were onsite at al times reported.
Part I.J.9.	**Reopener:** 9VAC25-32-220 allows a permit to be opened when a change is made in the promulgated standards or regulations on which the VPA permit was based.
Part I.J.10.	**Storm Water Discharge Exception:** 9VAC25-32-30.A States that all pollutant management activities covered under a VPA permit shall maintain no point source discharge of pollutants to surface waters except in the case of a storm event greater than the 25-year, 24-hour storm.
Part I.J.11.	**Materials Handling/Storage:** 9VAC25-32-30.B states that except in compliance with the VPA or another permit issued by the board that it is unlawful to discharge into, or adjacent to, state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances.

Part II.	**CONDITIONS APPLICABLE TO ALL VPA PERMITS:** VPA Permit Regulation 9VAC25-32-80 requires all VPA permits to contain or specifically cite the conditions listed.